

IN THE CLAIMS

The following listing of claims replaces all previous listings and versions of claim in this application.

Claims 1-84. (cancelled)

85. (previously presented) An applicator for streaming a solution over, and in contact with, a skin portion of a subject, the applicator comprising a housing having a skin-facing opening, at least one inlet and at least one outlet, said at least one inlet and said at least one outlet each providing a passageway for streaming of said solution therethrough and over the skin portion defined by said skin-facing opening, wherein an opening of at least one of said at least one inlet and said at least one outlet through which said solution streams is height adjustable with respect to said skin-facing opening, such that the applicator physically conforms to a non-smooth skin surface of the subject.

86. (previously presented) The applicator of claim 85, further comprising a screw mechanism for adjusting said height of said opening with respect to said skin-facing opening.

87. (original) The applicator of claim 85, wherein each said passageway is configured as a tube structure.

88. (previously presented) The applicator of claim 85, wherein said outlet is positioned within said inlet.

89. (previously presented) The applicator of claim 85, wherein said inlet is for adjustably directing streaming of a protease solution to a treatment zone of a surface of a viable tissue of the skin portion of the subject, such that said streaming protease solution streams over, and is in contact with, said surface of said viable tissue, for enzymatically and

mechanically causing removal of cells, cellular debris and tissue debris from said surface of said viable tissue of the skin portion of the subject.

90. (previously presented) The applicator of claim 85, wherein said outlet is for adjustably removing a streaming protease solution and removed cells, cellular debris and tissue debris from a surface of a viable tissue of the skin portion of the subject.

91. (original) The applicator of claim 85, wherein each said opening of said at least one inlet and of said at least one outlet through which said solution streams is height adjustable with respect to said skin-facing opening.

92. (previously presented) The applicator of claim 85, further comprising:

(a) a first tube structure operatively connected to said at least one inlet for directing streaming of said solution from said at least one inlet to a treatment zone of the surface of the viable tissue, such that said streaming protease solution streams over, and in contact with, the surface of the viable tissue, for enzymatically and mechanically causing the removal of cells from the surface of the viable tissue; and

(b) a second tube structure positioned within said first tube structure for adjustably directing said streaming protease solution and said removed cells away from said treatment zone, the second tube being operatively connected to said at least one outlet, wherein a screw mechanism operatively connected to said second tube structure allows adjustment of height of opening of said second tube structure with respect to a skin-facing opening of said treatment zone.

93. (previously presented) The applicator of claim 85, further comprising a first reservoir in fluid communication with said at least one inlet, wherein the first reservoir is adapted for containing a solution comprising an effective amount of at least one protease.

94. (previously presented) The applicator of claim 93, further comprising a pump that is operatively connected between said first reservoir and said at least one inlet for effecting the streaming of the solution in said first reservoir to said at least one inlet.

95. (previously presented) The applicator of claim 93, wherein said first reservoir is arranged to direct, by gravitation, the solution towards said at least one inlet.

96. (previously presented) The applicator of claim 93, further comprising a thermoregulator that is operatively connected between said first reservoir and said at least one inlet.

97. (previously presented) The applicator of claim 93, further comprising a mixer that is operatively connected between said first reservoir and said at least one inlet.

98. (previously presented) The applicator of claim 93, further comprising a filter that is operatively connected to said first reservoir and said at least one inlet.

99. (previously presented) The applicator of claim 93, further comprising a cell collector that is operatively connected to said at least one outlet, wherein the collector is arranged to receive said solution and said removed cells, cellular debris and tissue debris from the inlet.

100. (previously presented) The applicator of claim 99, wherein said cell collector further comprises a filter for collecting said removed cells from the skin portion of the subject.

101. (previously presented) The applicator of claim 99, wherein said cell collector further comprises a continuous flow centrifuge for collecting said removed cells from the skin portion of the subject.

102. (previously presented) The applicator of claim 85, further comprising engaging means that is operatively connected to the applicator for engaging the applicator with the skin portion of the subject.

103. (previously presented) The applicator of claim 93, further comprising a receptacle that is operatively connected to the applicator for receiving said first reservoir.

104. (previously presented) The applicator of claim 93, wherein the first reservoir is constructed from glass, metal or plastic.

105. (previously presented) The applicator of claim 93, wherein the first reservoir contains a solution comprising an effective amount of at least one protease which is substantially catalytically inactive.

106. (previously presented) The applicator of claim 105, wherein the solution contains at least one protease selected from the group consisting of papain, bromelain, plasminogen activator, plasmin, mast cell protease, lysosomal hydrolase, streptokinase, pepsin, vibriolysin, krill protease, chymotrypsin, trypsin, collagenase, elastase, dipase, proteinase K, Clostridium multifunctional protease and Bacillus subtilis protease.

107. (previously presented) The applicator of claim 105, wherein the solution contains a single protease.

108. (previously presented) The applicator of claim 105, wherein the solution contains a plurality of proteases.

109. (previously presented) The applicator of claim 105, wherein the solution further contains an effective amount of at least one substance selected from the group consisting of: a local anesthetic, a coagulant and an anti-coagulant.

110. (previously presented) The applicator of claim 109, wherein the solution further contains an effective amount of an antibiotic

111. (previously presented) The applicator of claim 93, further comprising a second reservoir that is operatively connected to said first reservoir, wherein the second reservoir is adapted for containing means capable of activating said at least one protease.

112. (previously presented) The applicator of claim 111, wherein the second reservoir is constructed from glass, metal or plastic.

113. (previously presented) The applicator of claim 111, wherein the first reservoir contains a solution comprising an effective amount of at least one protease which is substantially catalytically inactive and the second reservoir contains means for activating said at least one protease of the first reservoir.

114. (currently amended) The applicator of claim [[86]] 89 wherein the passageways include (a) a first tube structure operatively connected to said inlet port for directing said streaming of said protease solution from said inlet port to a treatment zone of the skin portion, such that said streaming protease solution enzymatically and mechanically causes the removal of cells from the skin portion and (b) a second tube structure positioned within said first tube structure for adjustably directing said streaming protease solution and said removed cells away from said treatment zone, wherein the screw mechanism allows adjustment of height of opening of said second tube structure with respect to a skin-facing opening of said treatment zone; and wherein the outlet port removes said streaming protease solution and said removed cells from said second tube structure, thereby removing the cells from the skin portion of the subject.

115. (previously presented) The applicator of claim 114 further comprising (a) a first reservoir containing a solution comprising an effective amount of at least one protease in a substantially catalytically inactive form; (b) a first receptacle for receiving said first reservoir; (c) a second reservoir containing a protease activating solution, said activating solution activates catalytic activity of said at least one protease upon mixing with said first solution; (d) a second receptacle for receiving said second reservoir; and (e) a mixing chamber in fluid communication with said first and second reservoirs when received by said first and second receptacles, said

mixing chamber is for mixing said first solution and said activating solution such that said at least one protease becomes catalytically active in solution.

116. (previously presented) The applicator of claim 115, wherein the mixing chamber includes a mixing mechanism for mixing said at least one protease and said activating solution such that said at least one protease becomes catalytically active in solution.

117. (previously presented) A method for removing cells from a skin portion of a subject inflicted with a dermatological lesion, comprising the steps of (a) providing the applicator of claim 93, wherein the first reservoir contains a solution containing an effective amount of at least one protease; (b) receiving the solution from said first reservoir, via the at least one inlet of the applicator; (c) directing the streaming of said solution from said at least one inlet to a treatment zone of the skin portion, via the first tube structure of the applicator such that the streaming protease solution enzymatically and mechanically causes the removal of cells from the skin portion; (d) adjustably directing the streaming protease solution and the removed cells away from the treatment zone via the second tube structure positioned within the first tube structure, wherein a screw mechanism operatively connected to the second tube structure allows adjustment of height of opening of the second tube structure with respect to a skin-facing opening of the treatment zone; and (e) removing the streaming protease solution and the removed cells from the second tube structure, via the at least one outlet operatively connected to the second tube structure, thereby removing the cells from the skin portion of the subject.

118. (previously presented) The method of claim 117, wherein the at least one protease is selected from the group consisting of papain, bromelain, plasminogen activator, plasmin, mast cell protease, lysosomal hydrolase, streptokinase, pepsin, vibriolysin, krill protease, chymotrypsin, trypsin, collagenase, elastase, dipase, proteinase K, Clostridium multifunctional protease and Bacillus subtilis protease.

119. (previously presented) The method of claim 117, wherein the solution contains a single protease.

120. (previously presented) The method of claim 117, wherein the solution contains a plurality of proteases.

121. (previously presented) The method of claim 117, wherein the solution further contains an effective amount of at least one substance selected from the group consisting of: a local anesthetic, a coagulant and an anti-coagulant.

122. (previously presented) The method of claim 121, wherein the solution further contains an effective amount of an antibiotic.

123. (previously presented) The method of claim 117, wherein the at least one protease is activated shortly prior to the streaming of the protease solution, over, and in contact with, the skin portion.

124. (previously presented) The method of claim 123, wherein the at least one protease is activated by (a) maintaining the at least one protease at a first temperature in which the at least one protease is substantially catalytically inactive and then changing the first temperature to a second temperature at which the at least one protease is catalytically active; (b) providing the at least one protease in a powder form and mixing the powder with a solution in which the at least one protease becomes catalytically active; or (c) providing the at least one protease in a first solution in which the at least one protease is substantially catalytically inactive and mixing the first solution with a second solution so as to achieve a mixed solution in which the at least one protease is catalytically active.

125. (previously presented) The method of claim 124, wherein the mixed solution differs from the first solution by at least one parameter selected from the group consisting of pH, ion concentration, free metal concentration, hydrophilicity and hydrophobicity.

126. (previously presented) The method of claim 117, further comprising the step of (g) collecting the streaming solution and the removed cells exiting said at least one outlet.

127. (previously presented) The method of claim 126, wherein collecting the removed cells is effected via filtration.

128. (previously presented) The method of claim 126, wherein collecting the removed cells is effected via continuous flow centrifugation.